

**A CORRELATION STUDY ON A LEXICAL MODEL
AMONG ESL TERTIARY LEARNERS**

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UNIVERSITI SAINS MALAYSIA

2016

**A CORRELATION STUDY ON A LEXICAL MODEL
AMONG ESL TERTIARY LEARNERS**

By

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**Thesis submitted in fulfillment of the requirements for
the degree of
Doctor of Philosophy**

January 2016

ACKNOWLEDGMENTS

First of all, I would like to convey my sincere thanks to Universiti Sains Malaysia (USM) for granting me the *USM Master Degree* in 2010 to pursue my Ph.D. study. It was also USM which had awarded me *the Graduate Assistant Schemes 2013-2015*, to which I am equally grateful.

Secondly, I would like to express my profound gratitude and sincere appreciation to my supervisors, *Assoc. Prof. Dr. Mohamad Jafre Bin Zainol Abidin*, Associate Professor in the School of Educational Studies and *Dr. Lin Siew Eng* for their constructive advice, professional guidance, and kind help in making this thesis a reality. I also would like to express to all of my beloved friends and colleagues who had motivated me throughout the process of my writing of this thesis, the highest appreciation.

I also would like to thank *Prof. Lu Gu Sun* for his comments on the English corpus of my thesis proposal from *Fu Dan University*. I am indebted to *Assoc. Prof. Dr. Nordin Abd. Razak* for his critical comments on my statistical analysis results during my time at *USM*. This thesis would not have been possible too without much assistance and cooperation given by the faculty members, academic staff and students from the *School of Languages, Literacies and Translation*.

Last but not least, I am taking this opportunity to express the most profound gratitude and blessings to my father, *Wu Yu Li*, my mother, *Yao Xiu Lan* for providing me with encouragement, financial support, and understanding as to ensure that my academic journey is smooth-sailing.

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ABBREVIATIONS

AEU	Autonomous English Using
AGFI	Adjusted Goodness-of-Fit Index
AJ	Acceptability Judgment
AWL	Academic Words List
BCT	Banked Cloze Test
CALES	Corpus Archive of Learner English in Sabah-Sarawak
CAV	Controlled Active Vocabulary
CAVB	Controlled Active Vocabulary Breadth
CAVC	Controlled Active Vocabulary Competence
CAVD	Controlled Active Vocabulary Depth
CAVK	Controlled Active Vocabulary Knowledge
CFA	Confirmatory Factor Analysis
CFI	Comparative Fix Index
CM	Corpus Method
DVK	Depth of Vocabulary Knowledge
DVKT	Depth of Vocabulary Knowledge Test
EFL	English as a Foreign Language
EMAS	English of Malaysian School Students
ESL	English as a Second Language
EST	English for Science and Technology
EVST	Euro-centers Vocabulary Size Test
FAV	Free Active Vocabulary
FAVB	Free Active Vocabulary Breadth
FAVC	Free Active Vocabulary Competence
FAVD	Free Active Vocabulary Depth
FAVK	Free Active Vocabulary Knowledge
FTRM	Forward Translation Recognition Matrix

GFI	Goodness-of-Fit Index
GSL	General Service List
IELTS	International English Language Testing System
JET	Joint Entrance Test
K1	The first 1,000 most frequent words
K2	The second 1,000 most frequent words
KR20	Kuder–Richardson 20
KR21	Kuder–Richardson 21
OL	Off List
LISREL	Linear Structural Relations
LD	Lexical Diversity
LFP	Lexical Frequency Profile
LV	Lexical Variation
MACLE	Malaysian Corpus of Learner English
MC	Multiple – Choice
MUET	Malaysian University English Test
NNFI	Non-Normed Fit Index
OL	Off List
PCA	the Principal Component Analysis
PLT	Productive Levels Tests
PV	Passive Vocabulary
PVB	Passive Vocabulary Breadth
PVBT	Passive Vocabulary Breadth Test
PVC	Passive Vocabulary Competence
PVD	Passive Vocabulary Depth
PVK	Passive Vocabulary Knowledge
RC	Reading Comprehension
RFI	Relative Fit Index

RMSEA	Root Mean Square Error of Approximation
SCRM	Sentence Completion Recognition Matrix
SEM	Structure Equation Modeling
SLLT	School of Languages, Literacies and Translation
SPSELET	Singapore Polytechnic Specimen English Language Entrance Test
SRMR	Standardized Root Mean Square Residual
SRS	Sample Random Sampling
STTR	Standardized Type-Token Ratio
TTR	Type-Token Ratio
UWL	University Word List
VKS	Vocabulary Knowledge Scale
VLT	Vocabulary Levels Test
VP	VocabProfile
WAT	Word Associate Test
Wed-VP	Web-VocabProfile
WDT	Word Definition Test
WTC	WordSmith Tools Controller

KAJIAN KORELASI TERHADAP MODEL LEKSIKAL DALAM KALANGAN PELAJAR ESL DI INSTITUSI PENGAJIAN TINGGI

ABSTRAK

Kajian ini bertujuan untuk mengkaji hubungan antara pengetahuan leksikal dan kecekapan leksikal akademik dalam kalangan pelajar di institusi pengajian tinggi. Kajian ini mengkaji tentang pemboleh-pemboleh ubah pengetahuan leksikal (keluasan dan kedalaman perbendaharaan kata pasif, keluasan dan kedalaman perbendaharaan kata aktif terkawal, keluasan dan kedalaman perbendaharaan kata aktif bebas) dan pemboleh-pemboleh ubah kecekapan leksikal (kecekapan perbendaharaan kata pasif, kecekapan perbendaharaan kata aktif terkawal, dan kecekapan perbendaharaan kata aktif bebas) melibatkan pencapaian Bahasa Inggeris Akademik dalam kalangan pelajar terpilih di Universiti Sains Malaysia (USM). Kajian ini menggunakan kaedah tinjauan keratan rentas secara kuantitatif. Peserta kajian terdiri daripada 155 orang pelajar kursus Bahasa Inggeris Akademik yang dipilih dari USM menggunakan kaedah pensampelan rawak berstrata. Alat pemodelan persamaan hubungan struktur linear (LISREL-SEM) digunakan untuk menganalisis data. Keputusan statistik menunjukkan bahawa tiga pemboleh ubah eksogen terpendam bagi pengetahuan leksikal telah menerangkan 58%, 66%, dan 93% varians dalam pemboleh ubah bersandar ($R_1=0.58$, $R_2=0.66$, $R_3=0.93$). Faktor-faktor pengetahuan leksikal yang paling signifikan dinilai dan diuji dalam kajian ini ($X^2/df=2.05$, $RESEA=0.04$, $GFI=0.91$, $AGFI=0.90$, $NNFI=0.95$, $CFI=0.90$ and $P<0.05$). Nilai RESEA sebanyak 0.04 adalah kurang daripada nilai potong 0.05, dan ia dianggap sebagai anggaran ralat punca min kuasa dua. Dapatan kajian ini memberikan

petunjuk tentang potensi faktor-faktor leksikal untuk membantu pelajar-pelajar di institusi pengajian tinggi dalam mempelajari perbendaharaan kata secara aktif di dalam kelas Bahasa Inggeris akademik dalam persekitaran ESL. Akhir sekali, kajian ini juga memberikan beberapa cadangan untuk kajian-kajian pada masa akan datang.

A CORRELATION STUDY ON A LEXICAL MODEL AMONG ESL TERTIARY LEARNERS

ABSTRACT

This study aims to examine the relationship between lexical knowledge towards understanding tertiary students' academic lexical competence. The study investigates the lexical knowledge variables (passive vocabulary's breadth and depth, controlled active vocabulary's breadth and depth, free active vocabulary's breadth and depth) and lexical competence variables (passive vocabulary competence, controlled active vocabulary competence, and free active vocabulary competence) pertaining to the Academic English performance of selected Universiti Sains Malaysia (USM) tertiary students. This study adopts the quantitative-based cross sectional survey method. The participants consisted of 155 tertiary students of the Academic English course chosen from USM which were selected based on the stratified random sampling method. The linear structural and relational structural equation modelling (LISREL-SEM) tools were employed to analyze the data. Statistical results show that three exogenous latent variables of lexical knowledge have explained 58%, 66%, and 93% of the variance in the dependent variables ($R_1=0.58$, $R_2=0.66$, $R_3=0.93$). The most significant factors in lexical knowledge are evaluated and tested in this research ($\chi^2/df=2.05$, $RESEA=0.04$, $GFI=0.91$, $AGFI=0.90$, $NNFI=0.95$, $CFI=0.90$ and $P<0.05$). The RESEA's value of 0.04 was less than the cutoff value of 0.05, and it was considered as an approximation of the root mean square error. The findings provide an indication of the potential lexical factors to facilitate tertiary students to learn vocabulary actively in academic English

class in the ESL environment. Finally, this study also provides a number of recommendations and suggestions for future studies.

CHAPTER ONE

INTRODUCTION

1.1 OVERVIEW

English vocabulary teaching is a basic and an important component of fluency in a language. It plays an important role in improving verbal and written communication skills in ESL learning. Vocabulary teaching and its usage are found in the four skills of language acquisition, namely reading, writing, listening and speaking skills. In some of the researches on second language vocabulary acquisition, there exist different opinions as to what teaching a word means. Dixon, Chuang and Quiroz (2012) have categorized lexical competence into five parts that include generalization, application, breadth of meaning, the precision of meaning, and availability. Read (1997) argues that lexical knowledge teaching includes vocabulary breadth and depth. The lexical study is also discussed from a psychological perspective, where Jiang (2000) distinguishes two concepts in the lexical knowledge teaching development process, namely, lexical transfer and lexical competence.

In addition, Nation (2001) claims that lexical knowledge included word form, word meaning, and usage. Based on these different vocabulary definitions, lexical knowledge and lexical competence are universally received as forming the basic theory. Nonetheless, the above definitions are still lopsided and there are limitations as some researchers merely focus on the vocabulary breadth and depth, and other researchers focus only on lexical knowledge. Thus, the research on ESL teaching still needs to look

into a model that has included lexical knowledge and lexical competence (Thirusanku & Yunus, 2013). There has yet to be a research that conducts an in-depth analysis on the relationship of lexical knowledge and lexical competence, and that distinguishes between passive vocabulary, active vocabulary, vocabulary breadth, and vocabulary depth in one model. Therefore, the paucity of research has provided the motivation for this study.

In Malaysia, lexical study has been playing a more important role in academic English education. As an instance, Hsin (2013) describes a lexical study based on three dimensions that are reading vocabulary, writing vocabulary, listening and speaking vocabulary. The writing vocabulary study in particular, is more focused on the vocabulary tense and aspect (Hsin, 2013; Lee, 2014; Gao, 2013; Pessoa, Miller and Kaufer, 2014). In addition, lexical teaching and learning study is described in three stages and they are short-term memory, long-term memory, and the correct use in English exams (Kaushanskaya, Blumenfeld, and Marian, 2011; Yi & Luo, 2013; Agnieszka & David, 2013). Hence, English lexical study is more specifically divided into different areas of ESL and EFL environments, although the learning purpose focuses more on the English exam in EFL countries.

As the fact that the EFL teaching purpose is exam-oriented, it does not show the real lexical competence level of free active vocabulary, and also hardly shows the lexical knowledge learning process (Tan, 2009). Therefore, the researcher has chosen ESL participants to participate in this research instead of ESL participants.

The most important element of this research that needs to be discussed in concerns the kinds of items of lexical knowledge for ESL English learners. Is there any relationship between lexical knowledge and lexical competence among the ESL English learners? English teachers are seen as the main actors who can suffer, or benefit, from the tests of this research. Therefore, the relational model between lexical knowledge and lexical competence could clearly show the relationships between student's lexical knowledge and competence. In addition, based on this relational model, English teachers can easily find out any shortcomings and problems in light of vocabulary learning.

The literature finds numerous studies that look at lexical knowledge and lexical competence from various aspects. There are many studies that have examined the relationship between vocabulary breadth and reading comprehension, and vocabulary depth with reading and writing (Corson, 1995; Meara, 1996a, 1996b; Qian, 1998, 1999, 2000, 2002, 2004; Henriksen, 1999; Jiang, 2000; Nation, 1985; Rumelhart, 1980; Asgari & Ghazali Mustapha; 2012; Kameli, et al. 2012; Laufer, 1998 et al.). These studies are based on students' English vocabulary learning at university when English is learned as the second language in different countries. The researcher examines students' vocabulary breadth, depth and competence in reading and writing in their academic English classes in Malaysia. Moreover, Teubner (2009) identifies that a good learning model should be connected with all factors that are related to the topic. Hence, in this study, lexical knowledge and lexical competence are described from the dimensions of vocabulary breadth and depth, but the lexical competence is described from reading and writing. All of these factors co-exist in a relational model.

Therefore, there is no doubt that students' actual-English vocabulary level will be more clearly measured by their performance on the tests. In addition, these tests had been conducted thrice and these include the passive vocabulary section, controlled active vocabulary section and controlled active vocabulary section. This thesis investigates an empirical lexical study on the relationship between lexical knowledge and lexical competence. It discusses mainly the relationships between passive vocabulary, controlled active vocabulary, and free active vocabulary. Vocabulary breadth and depth are used as the measuring tools of lexical knowledge in this research.

This research had constructed two theoretical models: the lexical knowledge model and the relational framework of the second language lexical knowledge and competence. These two models were drawn up after the Linear Structural Relations (LISREL) analysis. Finally, this thesis explains the main contents and methods, the objectives of the research as well as determines the second language lexical knowledge framework and the relationship study between lexical knowledge and lexical competence from the ESL English learners.

1.2 BACKGROUND OF THE STUDY

Studies by August et al. (2005), Thornbury (2002), Nation (1990, 2000), and Read (2000) have shown that a match between teachers' vocabulary teaching content and learners' preferred learning content increased the former's English vocabulary teaching efficiency. However, serious mismatches between both contents will result in students moving further away from the teachers' teaching purpose, and becoming inattentive and performing rather poorly in tests and assessments (Darmi and Albion, 2013; John et al., 2007; Hatami and Tavakoli, 2012; Zheng, 2002; Zareva et al., 2005; August et al., 2005).

There are various definitions of the term 'teaching content'. According to Tan (2009), different researchers have their own understanding of what constitutes teaching content, but teaching and learning should be at the same level for ESL teachers and students. Zou (2006) defines teaching content as the general approach that teachers resort to, teaching new content for students. Honigsfeld and Dunn (2006) defined teaching content as an arrow to show the memorizing and language development direction. Hence, teaching and learning should be one way and synchronous.

Furthermore, John et al. (2007) compared the English native speakers' vocabulary learning process, and English ESL speakers' vocabulary learning and processing in Malaysia. They found that there is a significant difference between intra-lexical factors and external lexical factors. Hence, a transition phase is compulsory for this English learning improvement process, which is translated into learning English vocabulary as the second language. Hatami and Tavakoli (2012), Zheng (2002), Zareva et al (2005), August et al. (2005) and some other researchers have been focusing on the research on ESL lexical knowledge and competence. Due to the environment and

participants' level of English, these researchers were still unable to obtain an accurate data to describe clearly the lexical knowledge and lexical competence in the ESL environment. It is important to note that all participants are from Malaysia.

In addition, Tan (2009) identifies that grammar; phonetics and vocabulary are the three major elements that make up a language. Vocabulary is the most important and the most basic element. The breadth of vocabulary will greatly influence effective communication and expression because vocabulary breadth is one criterion for measuring learners' English competence (Hatami and Tavakoli, 2012). Nation's (1983) exploratory study establishes that lexical knowledge includes receptive vocabulary and productive vocabulary. Meara (1990, 1999) advocates a lexical concept where active vocabulary, productive vocabulary, and production will fall into the category of receptive vocabulary, or passive vocabulary. But reception and comprehension would be classified as productive vocabulary.

It is argued by Laufer and Paribakht (1998) that lexical knowledge includes vocabulary breadth and vocabulary depth. In addition, Qian (2002) has suggested that there are four stages of lexical knowledge in the reading comprehension process, namely vocabulary depth, vocabulary breadth, lexical organization, and automaticity of productive vocabulary and receptive vocabulary. Even though these researchers have focused on vocabulary, the emphasis is only on one specific point of the vocabulary study, that is, receptive vocabulary knowledge or productive vocabulary knowledge, and vocabulary breadth or vocabulary depth. At the same time, these researchers have just described the empirical study of vocabulary knowledge and reading comprehension skill or vocabulary study and writing skills. In fact, very scarce research has addressed

reading and writing in one research that combines passive vocabulary, free active vocabulary, and vocabulary depth and vocabulary breadth.

There are a number of studies that shed light on USM undergraduates' vocabulary learning and usage, with particular attention on the non-English major undergraduates who are learning English in USM. Wu, Mohamad J., and Lin (2013) observed that there was a relationship between English vocabulary threshold and word guessing strategy for pre-university students in USM, which mainly highlights the vocabulary breadth test. The USM students' vocabulary breadth and depth are also described in the research that looks into listening problems (Wu & Mohamad J., 2013). Hence, their focus was more on the lexical breadth and word-guessing ability study and vocabulary breadth, depth and listening comprehension study for non-English major students in USM. However, it can be argued that these lexical researches are still sufficiently comprehensive.

This research examines the empirical study on the relationship between lexical knowledge and lexical competence for ESL learners. Two theoretical models of the lexical knowledge framework and the relationship framework between lexical knowledge and lexical competence were set up post-study. In order to get the results of these two models, the Statistical Package for Social Sciences (IBM SPSS) and Linear Structural Relations (LISREL) were used as the main analytical tools. Therefore, this research aims to build a more precise lexical knowledge concept in a second language environment.

1.3 RATIONAL OF THE STUDY

ESL vocabulary teaching is taught in all of the English courses in academic English teaching, which can help increase competency in various English courses to achieve successful acquisition of the language. The importance of vocabulary learning is identified by all ESL teachers and researchers who try to develop new tools and approaches to ESL lexical knowledge learning and teaching. In addition, lexical knowledge is also a critical checkpoint (Laufer, 1992; Qian, 1999, 2002; Wu, Mohamad J. & Lin, 2013; Engber, 1995; Gitsaki, 1999).

Academic English teachers need to clearly recognize the importance of lexical study for reading and writing as some lexical knowledge dimensions have shown high effectiveness of the reading and writing. Both teachers and learners should know the method to effectively utilise lexical knowledge (Qian, 1999, 2002; Read, 2000, 2002, 2004) because a big vocabulary breadth is unable to achieve the purpose of successful communication in reading and writing

In other words, ESL teachers should fully understand the ESL lexical knowledge framework in order to effectively point out the ESL learners' specific problems during vocabulary learning and teaching. ESL teachers need to also help students improve their English language learning and using ability. At the same time, ESL teachers' feedback becomes more effective for English teaching after the method is clearly known by ESL teachers, which is by using objective lexical testing scales to evaluate the lexical knowledge of students who are learning English as a second language.

1.4 STATEMENT OF THE PROBLEM

In this section, four problem statements have been identified as the underpinning of this research. Especially in the area of lexical study, the definition and framework of lexical knowledge are still vague and inconclusive. The vocabulary test scales and vocabulary detection process would become well-defined in this research. Finally, the main purpose of this research is to show the relationship between lexical knowledge and lexical competence. The specific statements of the research problem would be explained in-depth below.

Firstly, lexical knowledge and lexical competence have been used as a lexical definition in previous studies. But the linguists reviewed that the definition differentiates between linguistic knowledge and linguistic performance. Based on that theory, linguistic knowledge can be defined as the language knowledge that learners or participants have grasped. In the lexical point of view, linguistic knowledge definition can be defined as the vocabulary of what learners or participants have already memorized and used, such as vocabulary breadth and vocabulary depth. On the other hand, linguistic performance is the linguistic ability to use linguistic knowledge; especially used is this in the context of lexical point of view as the ability to use lexical knowledge in reading comprehension and writing. Therefore, in this research, linguistic knowledge focuses only on the lexical knowledge, and linguistic performance focuses on the lexical competence.

Secondly, it was found that neither a clear definition of lexical nor a uniformed framework has been formed in the previous studies; this definition is still ambiguous. There are different definitions of lexical knowledge in the previous studies, which included the dimension method, cumulative method, anaphora, and framework method. The definition of lexical knowledge was described by using different methods from different angles. But all of these lexical knowledge definitions are vague because every lexical knowledge definition included different variables, which are independent and not connected. The definition of lexical knowledge should be viewed along the lines of quality and quantity, but there is a lack of a relationship study between quality and quantity, such as in the relationship between vocabulary depth, writing, vocabulary breadth, and reading. Therefore, previous studies have not come to any consensus about lexical knowledge.

Thirdly, in the previous lexical study variables, vocabulary breadth and vocabulary depth supported the lexical knowledge tests. Vocabulary breadth may likewise be divided into passive vocabulary test and two active vocabulary tests. The testing tool of passive vocabulary breadth is the vocabulary level test (Nation, 1990) and Europe vocabulary level test (Meara & Buxton, 1987; Meara & Jones, 1990). The testing tools of active vocabulary are broken down into controlled active vocabulary and free active vocabulary. The testing tools of controlled active vocabulary breadth are the lexical frequency profile (Laufer & Nation, 1995), controlled active vocabulary test (Laufer & Paribackht, 1998), and also the productive level tests (Nation & Laufer, 1995). But there is no ready-made testing tool for free active vocabulary breadth. Some researchers used different testing methods, such as propositional composition (Laufer,

1998), and article translation (Gong, 2007). Therefore, free active vocabulary breadth test still requires an easy-to-use tool to test and focus on vocabulary breadth.

The testing tools of vocabulary depth are only focused on passive vocabulary and controlled active vocabulary. Vocabulary knowledge scale (Paribakht & Wesche, 1993) and depth of vocabulary knowledge (Qian, 1999, 2002, 2004) are included in the testing tools of passive vocabulary depth and word associate test (Read, 1993, 1998) is included in the controlled active vocabulary depth's testing tool. But there is no testing tool that focuses on the depth of the free active vocabulary test. Therefore, one of the purposes of this research is to develop an effective testing tool to test the depth of the free active vocabulary test.

After the testing variables are determined, the findings should show significant validity and reliability because the testing result is closely related to the testing process. In a previous study, even though the vocabulary variables' testing process is used in the various processes of the vocabulary tests, it still lacks a clear description of the testing process. Besides that, using the same testing method poses other problems for different vocabulary tests.

Finally, according to Read's (2000) suggestion, a particular aspect that has yet to receive sufficient attention in L2 lexical study is the relationship between language proficiency and the overall state of a learner's vocabulary. In this study, lexical knowledge is the kind of knowledge that participants already have, such as vocabulary breadth and vocabulary depth. Lexical competence is the ability of the participants to use that lexical knowledge in reading comprehension and writing. In this research lexical

knowledge is described in relation to active vocabulary and passive vocabulary. Lexical competence is also described from the passivity and initiative aspects. Passivity in reading comprehension ability refers to using passivity skills and passive vocabulary, but active vocabulary is separated into controlled active vocabulary and free active vocabulary. This lexical study looks at the cloze test and writing. The controlled active vocabulary is tested in reading comprehension by means of a cloze test, and writing is the method used to test free active vocabulary. The relationship of passive vocabulary's breadth or depth and passive vocabulary's strategies were discussed in a few lexical studies; and the relationship between active vocabulary depth or breadth and active vocabulary usage skills have also been discussed by some researchers. But as yet, there is no study to discuss it in one model that includes passive and active lexical knowledge, and passive and active lexical competence. Therefore, this research aims to solve four open questions: lack of a clear definition of lexical knowledge, lack of a clear framework of lexical knowledge, lack of clear vocabulary test scales and vocabulary detection process, and lack of a clear relationship research on lexical knowledge and lexical competence.

1.5 PURPOSE OF THE STUDY

Firstly, the purpose of this research is to show the relationship between lexical knowledge and lexical competence using the reading comprehension test, cloze test of reading comprehension, and writing test.

Secondly, there are two theoretical frameworks in this research. The conceptual framework of the second language lexical knowledge will be defined comprehensively and systematically. Apart from that, the theoretical model will be built between the second language lexical knowledge and second language lexical competence.

Thirdly, it is imperative that all the variables of the second language lexical knowledge are clearly defined and tested. Based on the correct definition of every variable in this study, all the statistical tools used would be carefully described. Some of the vocabulary testing tools used in this study to test every variable are the controlled active vocabulary test (CAVT) and the passive vocabulary test (PVT). The study also uses a few sophisticated statistical techniques to analyse the data. In this paper, the structural equation model (SEM) is used as the primary analytical tool. This is a data analysis tool that uses a combination of multiple regression analysis, path analysis and confirmatory factor analysis. Therefore, this research uses LISREL as the typical statistical analysis software in order to test the hypotheses in the theoretical model of the relationship between second language lexical knowledge and lexical competence.

1.6 THE OBJECTIVES OF THE STUDY

Our specific research objectives are as follows:

1. To identify the relationship between passive vocabulary knowledge and passive vocabulary competence.
 - a) To identify the relationship between passive vocabulary breadth and passive vocabulary knowledge among ESL learners in USM.

- b) To find out the extent of the passive vocabulary breadth that can statistically predict passive vocabulary competence.
 - c) To identify the relationship between the passive vocabulary depth and passive vocabulary competence among ESL learners in USM.
 - d) To find out the extent of the passive vocabulary depth that can statistically predict passive vocabulary competence.
 - e) To identify the relationship between passive vocabulary breadth and passive vocabulary depth.
2. To identify the relationship between controlled active vocabulary knowledge and controlled active vocabulary competence.
- a) To identify the relationship between controlled active vocabulary breadth and controlled active vocabulary competence among ESL learners in USM.
 - b) To find out the extent of the controlled active vocabulary breadth that can statistically predict controlled active vocabulary competence.
 - c) To identify the relationship between the controlled active vocabulary depth and controlled active vocabulary competence among ESL learners in USM.
 - d) To find out the extent of the controlled active vocabulary depth that can statistically predict controlled active vocabulary competence.
 - e) To identify the relationship between the controlled active vocabulary breadth and controlled active vocabulary depth.
3. To identify the relationship between free active vocabulary knowledge and free active vocabulary competence.
- a) To identify the relationship between free active vocabulary breadth and free active vocabulary competence among ESL learners.

- b) To find out the extent of the free active vocabulary breadth that can statistically predict free active vocabulary competence.
 - c) To identify the relationship between the free active vocabulary depth and free active vocabulary competence among ESL learners in USM.
 - d) To find out the extent of the free active vocabulary depth that can statistically predict free active vocabulary competence.
 - e) To identify the relationship between the free active vocabulary breadth and free active vocabulary depth.
4. To identify the relationship between lexical knowledge and lexical competence.

1.7 RESEARCH QUESTIONS

According to the literature review, the previous second language lexical studies mostly focused on the relationship between vocabulary and reading, or vocabulary and writing. The research results have not constructed a unified understanding. This research clearly separates ESL lexical knowledge into two parts; that is, vocabulary breadth and vocabulary depth, and describes these two parts from the aspects of passive vocabulary and active vocabulary. At the same time, the ESL lexical competence of this study is also separated into passive vocabulary competence and active vocabulary competence. Therefore, this research focuses on the relationship between ESL lexical knowledge and ESL lexical competence. Four research questions that can be answered by this current research are listed as follows:

1. Is there any relationship between passive vocabulary knowledge and passive vocabulary competence?
 - a) Is there any relationship between passive vocabulary breadth and passive vocabulary competence among ESL learners?
 - b) Can passive vocabulary breadth statistically predict passive vocabulary competence?
 - c) Is there any relationship between passive vocabulary depth and passive vocabulary competence among ESL learners?
 - d) Can passive vocabulary depth statistically predict passive vocabulary competence?
 - e) Is there any relationship between passive vocabulary breadth and passive vocabulary depth among ESL learners?
2. Is there any relationship between controlled active vocabulary knowledge and controlled active vocabulary competence?
 - a) Is there any relationship between controlled active vocabulary breadth and controlled active vocabulary competence among ESL learners?
 - b) Can controlled active vocabulary breadth statistically predict controlled active vocabulary competence?
 - c) Is there any relationship between controlled active vocabulary depth and controlled active vocabulary competence among ESL learners?
 - d) Can controlled active vocabulary depth statistically predict controlled active vocabulary competence?
 - e) Is there any relationship between controlled active vocabulary breadth and controlled active vocabulary depth among ESL learners?

3. Is there any relationship between free active vocabulary knowledge and free active vocabulary competence?
 - a) Is there any relationship between free active vocabulary breadth and free active vocabulary competence among ESL learners?
 - b) Can free active vocabulary breadth statistically predict free active vocabulary competence?
 - c) Is there any relationship between free active vocabulary depth and free active vocabulary competence among ESL learners?
 - d) Can free active vocabulary depth statistically predict free active vocabulary competence?
 - e) Is there any relationship between free active vocabulary breadth and free active vocabulary depth among ESL learners?
4. Is there any relationship between lexical knowledge and lexical competence?

1.8 HYPOTHESES OF THE STUDY

Based on these research questions, 18 hypotheses have been formulated for this research as shown in Table 1.1.

Table 1.1

The research hypotheses

Hypotheses: Lexical Knowledge and Lexical Competence (These Alternative hypothesis are only using for Research Question 4)	
H1a	Passive vocabulary knowledge has a positive relationship with passive vocabulary competence.
H1b	Controlled active vocabulary knowledge has a positive relationship with controlled active vocabulary knowledge.

Table 1.1
Continued

H1c	Passive vocabulary knowledge has a positive relationship with free active vocabulary knowledge.
H1d	Passive vocabulary knowledge has a positive relationship with controlled active vocabulary competence.
H1e	Passive vocabulary knowledge has a positive relationship with free active vocabulary competence.
H1f	Passive vocabulary competence has a positive relationship with controlled active vocabulary competence.
H1g	Passive vocabulary competence has a positive relationship with free active vocabulary competence.
H2a	Controlled active vocabulary knowledge has a positive relationship with controlled active vocabulary competence.
H2b	Control active vocabulary knowledge has a positive relationship with free active vocabulary knowledge.
H2c	Controlled active vocabulary knowledge has a positive influence with passive vocabulary competence.
H2d	Controlled active vocabulary knowledge has a positive relationship with passive vocabulary competence.
H2e	Controlled active vocabulary competence has a positive relationship with free active vocabulary competence.
H3a	Free active vocabulary knowledge has a positive relationship with free active vocabulary competence.
H3b	Free active vocabulary knowledge has a positive relationship with passive vocabulary competence.
H3c	Free active vocabulary knowledge has a positive relationship with controlled active vocabulary competence.

These research questions and related research hypotheses are formulated based on the following considerations:

Firstly, vocabulary breadth and vocabulary depth are chosen as the ESL lexical variables in this study. The vocabulary breadth represents the quantity of ESL lexical knowledge. The vocabulary breadth is the number of vocabularies, but the depth of vocabulary represents the ESL lexical quality, that is, the extent of the commanded vocabulary. On the one hand, it is the preconditions of mastering the vocabulary whereby a certain amount of vocabulary must be grasped. On the other hand, the depth of vocabulary is also compulsory for all language learners. Therefore, vocabulary breadth and the depth of vocabulary are the requirements of ESL lexical knowledge.

Secondly, passive vocabulary is defined as which meanings of words can be understood and spelled, while, active vocabulary is recognized as controlled active vocabulary and free active vocabulary. According to Henrikesin (1999), controlled active vocabulary can be correctly used based on background information, whereas, free active vocabulary can be correctly used under any circumstances. Therefore, passive vocabulary and active vocabulary are the requirements of ESL lexical knowledge.

Finally, ESL lexical competence is also a compulsory value to have in developing language acquisition skills. In previous studies, lexical competence is an important factor in enriching a learner's ability. It is very obvious that there is a significant gap between lexical knowledge and lexical competence for second language learners. Since all passive vocabulary cannot be automatically changed to active vocabulary, it is, therefore, necessary to study the relationship between ESL lexical knowledge and ESL lexical competence.

On the whole, this study discusses two parts, vocabulary breadth and vocabulary depth comprising passive vocabulary and active vocabulary. However, active vocabulary is separated into controlled active vocabulary and free active vocabulary. In the same way, ESL lexical competence is also discussed from the viewpoints of passive vocabulary and active vocabulary. Based on the seven variables of this lexical study, there are 18 hypotheses that can prove whether or not there is a close relationship between these variables.

1.9 SIGNIFICANCE OF THE STUDY

This study is important for the following reasons:

Firstly, there are two aspects to describe the significance of the theory. The conceptual organization of passive vocabulary competence and active vocabulary competence are included in these two aspects. On the other hand, the structural model consists of several variables which include passive vocabulary knowledge, passive vocabulary competence, controlled active vocabulary knowledge and controlled active vocabulary competence, free active vocabulary knowledge and free vocabulary competence.

In addition, passive vocabulary knowledge and active vocabulary knowledge are built in this research. From previous lexical studies, the definition of lexical knowledge is inconclusive. For instance, only one variable represented the passive vocabulary knowledge or active vocabulary knowledge, as well as passive vocabulary breadth or active vocabulary breadth. Various previous researches do not make a distinction

between the passive perspective and active perspective. As a result, all those variables are collectively called the lexical knowledge. All lexical variables are measured in previous studies, and these variables are included in the passive vocabulary knowledge and active vocabulary knowledge. Numerous reviewed lexical research articles show that the lexical research aspects are not complete. In this research, lexical knowledge is separated into passive vocabulary knowledge and active vocabulary knowledge, which include controlled active vocabulary knowledge and active vocabulary knowledge. According to passive vocabulary breadth and passive vocabulary depth, the passive vocabulary knowledge is studied as a concept; the active vocabulary breadth and depth are also used as measuring tools, in order to get the definition of active vocabulary knowledge. Therefore, all the definitions are more fully reflected from the different groups of the two variables. In addition, the mastery condition of every participant's lexical knowledge was also more comprehensively tested in this research.

Furthermore, the structural equation model of lexical knowledge and lexical competence are comprehensively and systematically established in this research. As there are no previous studies on lexical knowledge and lexical competence, lexical competence was not well discussed in previous studies. But in this study, lexical competence is defined as the ability of the participants to use lexical knowledge. This kind of ability was divided into three main parts, namely passive vocabulary competence, controlled active vocabulary competence and free active vocabulary competence. There are three kinds of measuring methods for these three variables, such as the reading comprehension test, which is a measuring tool of passive vocabulary competence; the controlled active vocabulary competence is measured by the cloze test of reading

comprehension, and writing test is used as a testing tool for free active vocabulary competence.

Due to the dispersion of some lexical variables in the early lexical studies, some researchers just focused on the relationship between reading comprehension and vocabulary breadth or depth, while other just described the relationship between writing and vocabulary breadth or depth. In addition, based on previous lexical studies, all the variables of this study are placed into one research framework, which are the passive vocabulary knowledge, passive vocabulary competence, controlled vocabulary knowledge, controlled vocabulary competence, free active vocabulary knowledge and free active vocabulary competence.

Secondly, the steps taken in the research methodology for this research comprised the following: every vocabulary measurement was clearly defined since there was confusion in past studies, such as a lack of a unified vocabulary measuring scale. Even though some of the vocabulary scales had been used in different lexical studies, the methodology and purpose were also different. This creates a massive problem for future studies as the findings could not be generalized to the next research. Not only were the measuring scales unclear, but the lexical definition itself was another example of loose usage of the term. Lexical knowledge and lexical competence were indistinctly proposed as terminologies, which did not make a distinction between passive vocabulary and active vocabulary, or vocabulary breadth and vocabulary depth. But these obstacles did not arise in this research.

In addition, LISREL was used as the software for the structural equation model besides SPSS in this study. In addition, the model relationship that was calculated by LISREL included passive vocabulary knowledge, passive vocabulary competence, controlled active vocabulary knowledge, controlled active vocabulary competence, free active vocabulary knowledge and free vocabulary competence because the structural equation model of LISREL can overcome the shortcoming of SPSS multi-regression analysis and correlation analysis. As it is a structural equation model, it allows more latent variables and observational variables to be put into one model, including that of factor analysis and path analysis. Therefore, a more convenient and comprehensive statistics analysis plan was provided by the structural equation model in this research.

Thirdly, the findings of this research are significant for vocabulary teaching and assessment. All English teachers and students should be more consciously aware that there is a relationship between lexical knowledge and lexical competence. English teachers should know that there are some differences between lexical knowledge and lexical competence as there are positive influences between lexical knowledge and lexical competence.

English teachers should extensively attempt to provide the opportunities to motivate their students to practice their knowledge of English vocabulary in their communication in a free and relaxed environment, and encourage their students to improve the critical consciousness of vocabulary in reading comprehension and writing. With this kind of critical consciousness it will help students study the beautiful words in every article with a fine tooth comb, and thus understand better the structure and purpose of the text. This kind of training in vocabulary discrimination ability is very important,

because not only will it help to improve the quality of the vocabulary that students use, but also to guide the students to use new vocabulary and develop a unique style in writing.

1.10 LIMITATIONS OF THE STUDY

There are some limitations in the study although this research has evidently made some progress.

Firstly, the samples of the writing tests were limited, because all the samples of the writing tests were collected from the same university. Therefore, future studies should add more universities for a more diversified sampling.

Secondly, this research data have been limited by time. Vocabulary learning and its usage involve the process of learning the passive vocabulary, controlled active vocabulary and free active vocabulary. If extension of time is possible, the data can be collected throughout the colleges over a period of four years, to get a more detailed and accurate picture, even though one semester is already a valid timeframe for this research.

Finally, this study has only selected some variables of learning English. If it is possible to extend the research field, the perspective of a native language can also add knowledge to the relationship study between lexical knowledge and lexical competence.

1.11 OPERATIONAL DEFINITION

The following terms, as used in this research, are defined below: